CLAIMS

I claim:

1. A process for producing a closure (1) for a medicine bottle having a cap portion (2) with at least one cap opening (3) sealed off by an elastic, puncturable sealing layer (4) and covered by a cover element (5), the process comprising producing and joining together the at least one cover element (5) and the cap portion (2), and then injecting a material of the elastic sealing layer (4) into the cap portion (2), wherein first the cap portion (2) is produced, then during manufacture of the at least one cover element (5) injecting a material of the cover element (5) around an edge region (6) of the cap portion (2) surrounding the cap opening (3) to form an interlockingly engaging connection between the cover element (5) and the cap portion (2), and wherein the materials of the cover element (5), cap portion (2) and sealing layer (4) are selected such that the material of the cover element (5) does not enter into a materially integrated bond either with the material of the cap portion (2) or with the material of the sealing layer (4).

2. The process according to claim 1, wherein on being injected into the cap portion (2) the sealing layer (4) becomes welded thereto

3. A process for producing a closure (1) for a medicine bottle having a cap portion (2) with at least one cap opening (3) sealed off by an elastic, puncturable sealing layer (4) and covered by a cover element (5), the process comprising producing and joining together the at least one cover element (5) and the cap portion (2), and then injecting a material of the elastic sealing layer (4) into the cap portion (2), wherein first the at least one cover element (5) and then the cap portion (2) are produced, and forming an interlockingly engaging connection between the cover element (5) and the cap portion (2) the cap material by injecting a material of the cap portion (2) around an edge region (6) of the cover element during production of the cap portion (2), and wherein the materials of the cover element (5), cap portion (2) and sealing layer (4) are selected such that the material of the cover element (5) does not enter into a materially integrated bond either with the material of the cap portion (2) or with the material of the sealing layer (4).

4. The process according to claim 3, wherein on being injected into the cap portion (2) the sealing layer (4) becomes welded thereto.

5. A closure (1) for a medicine bottle comprising a cap portion (2) connectable to the bottle, the cap portion (2) having at least one opening (3) closed off by an elastic, puncturable

sealing layer (4), the opening (3) being covered on an outside by a cover element (5) which is tightly and releasably connected to a rim (8) of the opening (3), wherein the cover element (5) is interlockingly connected to the rim (8), with no material bonding, by an edge region (6) of the cover element (5) encircling the opening (3), and wherein the sealing layer (4) makes flush, sterile contact, free from any material bond, with a reverse side of the cover element (5) facing the opening (3).

6. The closure (1) according to claim 5, wherein the rim (8) engages behind an undercut in the cover element (5).

7. The closure (1) according to claim 6, wherein the undercut is formed on an encircling groove of the cover element (5).

8. The closure (1) according to claim 5, wherein the cover element (5) is constructed as a cover cap which engages with its edge region behind at least one undercut in the cap portion (2).

9. The closure (1) according to claim 8, wherein the undercut is formed on a groove in the cap portion (2) surrounding the opening (3).

10. The closure (1) according to claim 5, wherein the at least one cover element (5) comprises a duroplastic material and the sealing layer (4) comprises a thermoplastic material.

11. The closure (1) according to claim 5, wherein the at least one cover element (5) and the sealing layer (4) comprise different thermoplastic materials which do not weld together.

12. The closure (1) according to claim 5, wherein the sealing layer (4) is welded flush to the cap portion (2) on the inside of the cap portion (2).

13. The closure according to claim 5, wherein the cover element (5) has at least one gripping tab (9), the gripping tab lying in a plane which extends transversely to a plane spanned by the opening (3).

14. The closure according to claim 13, wherein the plane of the gripping tab (9) extends at right angles and centrally with respect to the opening (3) of the cap portion (2).